a third conductive layer disposed below said second conductive layer, wherein said plurality of openings are sandwiched between the first and third conductive layers;

a first insulating interlayer disposed between said first conductive layer and said second conductive layer;

at least one first through hole provided in said first insulating interlayer;

a fourth conductive layer filling said at least one first through hole;

a second insulating interlayer disposed between said second conductive layer and said third conductive layer;

at least one second through hole provided in said second insulating interlayer wherein said at least one first through hole is disposed substantially directly above said at least one second through hole; and

a fifth conductive layer filling said at least one second through hole, wherein said first insulating interlayer and said second insulating interlayer are connected to each other through said openings of said second conductive layer, and a contiguous section of said first insulating interlayer with said second insulating interlayer is, thereby, formed between said first conductive layer and said third conductive layer.

REMARKS

Claims 2-8, 12-14 and 21 are pending. Claims 2-3, 6 and 12 are presently under consideration, and non-elected claims 4-5, 7-8, 13-14 and 21 have been withdrawn by the Examiner. By this Amendment, claim 2 is amended. No new matter has been added. Reconsideration in view of the above amendments and following remarks is respectfully requested. The attached Appendix includes a marked-up copy of claim 2 (37 C.F.R. §1.121(c)(1)(ii)).

Entry of this Amendment is proper under 37 C.F.R. §1.116 since the Amendment: (a) places the Application in condition for allowance (for the reasons discussed herein); (b) does

not raise any new issue requiring further search and/or consideration (since the amendments amplify issues previously discussed throughout the prosecution); (c) satisfies a requirement of form asserted in the previous Office Action; and (d) places the Application in better form for appeal, should an appeal be necessary. Entry of this Amendment is thus respectfully requested.

The Office Action rejects claims 2-3, 6 and 12 under 35 U.S.C. §103(a) over U.S. Patent 5,739,587 to Sato in view of U.S. Patent 5,736,791 to Fujiki et al. This rejection is respectfully traversed.

Neither Sato nor Fujiki alone, or in combination, teach suggest or render all of the subject matter of independent claim 2. In particular, the references fail to teach or suggest a semiconductor device including a first conductor layer, a second conductor layer disposed below the first conductor layer and including a plurality of openings, and a third conductor layer disposed below the second conductor layer, wherein said plurality of openings are sandwiched between the first and third conductive layers. The applied references also fail to teach or suggest connecting a first insulating interlayer and a second insulating interlayer through the openings in the second conductor layer such that a contiguous section of the first insulating interlayer and the second insulating interlayer is, thereby, formed between the first conductive layer and the third conductive layer, as recited in claim 2.

The Office Action has accurately acknowledged that neither Sato nor Fujiki teach or suggest openings being formed in the second conductive layer which is sandwiched between two other conductive layers. See, e.g., page 4, paragraph 2 of the Office Action. Claim 2 has been amended to recite this feature. The Office Action further points out that Sato fails to teach or suggest a second conductive layer having a plurality of openings and relies on Fujiki to provide this deficiency. See, e.g., page 3, paragraph 2 of the Office Action. Fujiki also fails to teach or suggest a second conductive layer having a plurality of openings wherein the

second insulating layer is disposed between the second conductive layer and the third conductive layer. In fact, Fujiki clearly fails to teach or suggest providing a third conductive layer as recited in claim 2. See, e.g., Fig. 3 of Fujiki. To include a third conductive layer would ultimately change the intended result of Fujiki's invention.

Furthermore, neither Sato nor Fujiki teach or suggest forming a first insulating interlayer with a second insulating interlayer contiguous between the first conductive layer and the third conductive layer, as recited in claim 2. One of ordinary skill in the art would not combine the teachings of Fujiki and Sato to arrive at the Applicant's claimed invention. In fact, elements 601 and 611 of Sato are shown as discontiguous, i.e., not directly abutting adjacent to each other. In addition, Fujiki teaches that element 5 is disposed between elements 6 and 3 and is also not contiguous with any other insulating interlayer.

Thus, none of the applied references teach or suggest preventing the crack formation to the insulating interlayers 150, 160 which are sandwiched between two electrodes 100, 300. See, e.g., the specification at page 4, lines 13-26, page 14, lines 15-27 and Fig. 21A. Unless the openings are formed in the conductive layer, which is sandwiched between the two conductive layers (or electrodes 100, 300), cracks X, Y are formed in the insulation interlayer 150, 160 which is sandwiched between these conductive layers (electrodes 100, 300). As mentioned above, none of the applied references teach, suggest, or render obvious the features or advantages of the claimed invention.

Accordingly, the Office Action fails to establish a prima facie case of obviousness, as the applied references fail to teach, suggest, or render obvious all of the subject matter of independent claim 2. Accordingly, the applied references also fail to render obvious the subject matter of claims 3-6 and 12, which depend from claim 2. Withdrawal of the rejection under 35 U.S.C. §103(a) is therefore respectfully solicited.

In view of the foregoing, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicant's undersigned representative at the telephone number set forth below.

Respectfully submitted,

James A. Oliff
Registration No. 27,075

Eric D. Morehouse
Registration No. 38,565

JAO:EDM/dmw

Date: May 30, 2003

Attachments:
Appendix
Petition for Extension of Time

OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

DEPOSIT ACCOUNT USE AUTHORIZATION
Please grant any extension necessary for entry;
Charge any fee due to our Deposit Account No. 15-0461

APPENDIX

Changes to Claims:

The following is a marked-up version of the amended claim:

2. (Five Times Amended) A semiconductor device including a bonding pad, wherein the bonding pad is a multiple wiring layer structure, the bonding pad comprising:

a first conductive layer connected to a conductive member for external connection;

a second conductive layer disposed below said first conductive layer, the second conductive layer having a plurality of openings;

a third conductive layer disposed below said second conductive layer, wherein said plurality of openings are sandwiched between the first and third conductive layers;

a first insulating interlayer disposed between said first conductive layer and said second conductive layer;

at least one first through hole provided in said first insulating interlayer;

a fourth conductive layer filling said at least one first through hole;

a second insulating interlayer disposed between said second conductive layer and said third conductive layer;

at least one second through hole provided in said second insulating interlayer wherein ~~the~~ said at least one first through hole is disposed substantially directly above said at least one second through hole; and

a fifth conductive layer filling said at least one second through hole, wherein said first insulating interlayer and said second insulating interlayer are connected to each other through said openings of said second conductive layer, and a contiguous section of said first insulating interlayer with said second insulating interlayer is, thereby, formed between said first conductive layer and said third conductive layer.